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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,821	03/26/2001	Keith Hall	SMX 3071.1 (99-22R1)	7846
45735	7590	03/25/2005	EXAMINER	
SENNIGER, POWERS, LEAVITT & ROEDEL ONE METROPOLITAN SQUARE 16TH FLOOR ST. LOUIS, MO 63102				
			ART UNIT	PAPER NUMBER
			1639	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/817,821	<b>Applicant(s)</b> HALL ET AL.	
	<b>Examiner</b> MY-CHAU T TRAN	<b>Art Unit</b> 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 14-71 and 90-122 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☒ Claim(s) 90-122 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 10, 14-19, 21, 22, 40, 41, 47-49, 52, 54-58 and 69-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*RL*

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/20/2004 has been entered.

### ***Status of Claims***

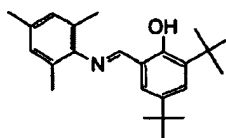
2. Applicant's amendment filed 12/20/2004 is acknowledged and entered. Claims 1, 14, 15, 90, 91, 100, 101, and 107 have been amended.
3. Claims 11-13, and 72 were canceled; Claims 1, 4-5, 9, 14-15, 47, 56, and 57 were amended; and Claims 90-122 were added by the amendment filed on 01/14/2004.
4. Claims 73-89 are canceled by the amendment filed on 01/31/2003.
5. Claims 1-10, 14-71, and 90-122 are pending.

### ***Election/Restrictions***

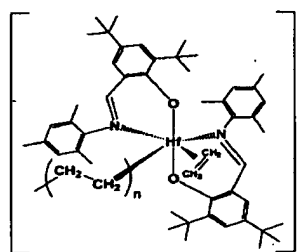
6. Applicant has elected the following species for the elected invention (Claims 1-10, 14-71, and 90-122) in the reply filed on 01/31/2003 and 05/18/2003:

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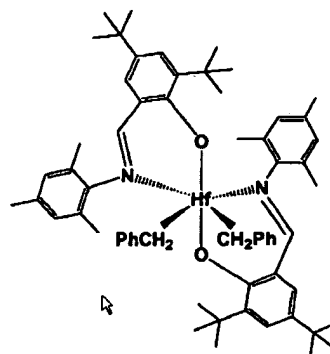
- a. A species of soluble metal precursor: Formula  $MR_n = \text{Hf}(\text{CH}_2\text{Ph})_4$
- b. A species of coordination number for metal-binding ligand: 2
- c. A species of charge for metal-binding ligand: -1



- d. A species of metal-binding ligand: (2,-1)
- e. A species of activator:  $\text{PhNMe}_2\text{HB}(\text{C}_6\text{F}_5)_4$
- f. A species of property of interest to be screened: Chemical property
- g. A species of screening method: Gravimetric measurement of the product yield
- h. A species of number of ligands in the array: 8
- i. A species of deprotonating agent: BuLi



- j. A species of polymerization product: , and thus the species of polymerization monomer is polyethylene homopolymer and the



species a meta-ligand composition is

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7. Claims 7-8, 20, 23-39, 42-46, 50-51, 53, 59-68, 96-97, 103-105, 108-112, 120, and 121 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to *nonelected species*, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/31/2003 and 05/18/2003. Additionally, the examiner thanks the applicant for bringing to the examiner attention that claim 103 was inadvertently excluded as a withdrawn claim. Claim 103 is similar to withdrawn claim 20.

***Priority***

8. This application claims benefit to a provisional application under 35 U.S.C 119(e). The provisional application is 60/191,933 filed 03/24/2000.

***Withdrawn Rejection(s)***

9. The rejection of claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, 54-58, and 69-71 under 35 USC 112, first paragraph (new matters) has been withdrawn in light of applicant's arguments, see pg. 22-23, filed 12/20/2004.

10. The rejection of claims 90-95, 98-103, 106-107, 113-114, 116-119, and 122 under 35 USC 112, first paragraph (new matters) has been withdrawn in light of applicant's arguments, see pg. 22-23, filed 12/20/2004.

11. The rejections of claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, 54-58, 69-71, 90-95, 98-103, 106-107, 113-114, 116-119, and 122 under 35 USC 112, second paragraph, as being

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indefinite have been withdrawn in light of applicant's arguments, see pg. 24, filed 12/20/2004, and amendments of claims 1, and 90.

12. The rejection of claims 90-95, 98-103, 106-107, 113-114, 116-119, and 122 under 35 USC 103(a) as being obvious over Weinberg et al. (US Patent 6,030,917) and Johnson et al. (*J. Am. Chem. Soc.*, **1995**, 117(23), pgs. 6414-6415) has been withdrawn in view of applicant's amendments of claim 90.

13. Claims 1-6, 9, 10, 14-19, 21, 22, 40, 41, 47-49, 52, 54-58, 69-71, 90-95, 98-102, 106, 107, 113-119, and 122 are treated on the merit in this Office Action.

***Claim Rejections - 35 USC § 112***

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claims 1-6, 9, 10, 14-19, 21, 22, 40, 41, 47-49, 52, 54-58, and 69-71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 recites the limitation "a ligand" in line 10. There is insufficient antecedent basis for this limitation in the claim 1. Claim 1 claimed the "soluble metal precursor comprises a solublizing ligand" and thus the limitation "a ligand" lack antecedent.

b) The term "'a ligand" is vague and indefinite because it is unclear as to the metes and bounds of the claimed 'soluble metal precursor'. Claim 1 claimed that the "soluble metal

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precursor comprises a solublizing ligand", and thus it unclear whether the 'a ligand' that is not displaced from the soluble metal precursor is the solublizing ligand or an additional ligand associated with the claimed 'soluble metal precursor'.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, and 54-58 are rejected under 35 U.S.C. 103(a) as being obvious over Weinberg et al. (US Patent 6,030,917) and Johnson et al. (*J. Am. Chem. Soc.*, 1995, 117(23), pgs. 6414-6415).

The applied reference has a common inventor, i.e. Johannes A. M. van Beek, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it

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constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

*The instant invention recites a process for preparing and screening an array of metal-ligand compositions. The method comprises the steps of 1) preparing an array of metal-ligand compositions by reacting a metal-binding ligand and a dissolved soluble metal precursor to form the metal-ligand composition; 2) delivering a polymerization monomer to the metal-ligand compositions to prepare an array of polymerization mixtures; 3) subjecting the array of polymerization mixtures to conditions conducive to the formation of a polymerization reaction product; and 4) screening the array for a polymerization reaction product.*

*The process occurs in a plurality of discrete reaction vessels contained by or within an integrated structure, and the plurality of reaction vessels of the array contains different metal-ligand compositions.*

*The soluble metal precursor comprises a solublizing ligand and one or more metal-ligand compositions are formed without displacing the solublizing ligand.*

Weinberg et al. teach the methods for the synthesis and characterization of arrays, i.e. libraries of catalysts and organometallic compounds (see e.g. Abstract; col. 1, lines 16-25; col. 3, lines 30-36). Weinberg et al. disclose a method of making an array of metal-ligand compounds



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wherein the step comprises reacting a metal binding ligand with a metal ion (refers to the metal precursor) (see e.g. col. 3, lines 37-54; col. 9, line 45 to col. 10, line 15). The array comprises different metal-ligand compounds at known location and the synthesis can be conducted using solution-phase synthetic technique (refers to the limitation of a plurality of discrete reaction vessels contained by integrated structure and contain different metal-ligand compounds, and claim 3) (see e.g. col. 3, lines 55-64; col. 10, line 66 to col.11, line 12; fig. 14). The synthesis also includes adding an activator such as  $\text{PhNMe}_2\text{HB}(\text{C}_6\text{F}_5)_4$  (refers to claims 14-15, 47-49) (see e.g. col. 11, lines 28-37). The metal ion is transition metal ions (refers to claim 9)(see e.g. col. 11, lines 13-17; col. 24, lines 46-48). The metal-binding ligand includes ligands such as heterocyclic compounds (refers to claim 2) and ancillary ligands (refers to 16-19) (see e.g. col. 15, line 61 to col. 16, line 11; col. 16, lines 20-34; col. 16, line 35 to col. 21, line 61). Additionally, the libraries are screened for useful property such as polymerization reaction (see e.g. col. 11, lines 38-67; col. 26, line 63 to col. 27, line 10).

The method of Weinberg et al. does not expressly include a soluble metal precursor comprising a solublizing ligand, and the method of screening the metal-ligand composition for activity by way of polymerization reaction.

Johnson et al. disclose the methods of using soluble transition metal-based catalysts for polymerization of ethylene and  $\alpha$ -olefins (see e.g. pg. 6414, left col., lines 1-7; pg. 6414, Scheme 1). The transition metal is palladium and nickel (refers to claim 9) (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). The solublizing ligand is methyl and Br (refers to claims 10, 22, 40-41) (see e.g. pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1). The metal-binding ligand is diimine ligands (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). Johnson

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et al. disclose two synthetic schemes for the polymerization of ethylene (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1). In the first synthetic scheme the metal catalyst, i.e. the metal with diimine ligands and methyl groups, is activated with an activator that result in a loss of a methane (refers to displacing the solublizing ligand) and forming a diethyl ether adduct, and exposing the metal adduct to ethylene (refers to a monomer) that result in a polymer, and the polymer is analyzed by NMR, i.e. nuclear magnetic resonance, (see e.g. pg. 6414, left col., lines 15-29; pg. 6414, Scheme 1; pg. 6415, Table 1). In the second synthetic scheme the metal catalyst, i.e. the metal with diimine ligands and bromine groups, is activated with an activator (refers to without displacing the solublizing ligand) and exposing the metal catalyst to ethylene (refers to a monomer) that result in a polymer, and the polymer is analyzed by NMR, i.e. nuclear magnetic resonance, (see e.g. pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1; pg. 6415, Table 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a soluble metal precursor comprising a solublizing ligand, and the method of screening the metal-ligand composition for activity by way of polymerization reaction as taught by Johnson et al. in the method of Weinberg et al. One of ordinary skill in the art would have been motivated to include a soluble metal precursor comprising a solublizing ligand, and the method of screening the metal-ligand composition for activity by way of polymerization reaction in the method of Weinberg et al. since both Weinberg et al. and Johnson et al. disclose the method of making diimine Ni and pd complexes, i.e. analogous art, (Weinberg: col. 12, line 65 to col. 13, line 11; Johnson: pg. 6414, left col., lines 1-18). Furthermore, one of ordinary skill in the art would have reasonably expectation of success in the combination of Weinberg et al.

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and Johnson et al. because Johnson et al. shown the successful polymerization of ethylene using the soluble metal catalyst.

19. Claims 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberg et al. (US Patent 6,030,917) and Johnson et al. (*J. Am. Chem. Soc.*, **1995**, 117(23), pgs. 6414-6415) as applied to claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, and 54-58 above, and further in view of Murata et al. (US Patent 5,892,075).

*The instant invention recites a process for preparing and screening an array of metal-ligand compositions. The method comprises the steps of 1) preparing an array of metal-ligand compositions by reacting a metal-binding ligand and a dissolved soluble metal precursor to form the metal-ligand composition; 2) delivering a polymerization monomer to the metal-ligand compositions to prepare an array of polymerization mixtures; 3) subjecting the array of polymerization mixtures to conditions conducive to the formation of a polymerization reaction product; and 4) screening the array for a polymerization reaction product.*

*The process occurs in a plurality of discrete reaction vessels contained by or within an integrated structure, and the plurality of reaction vessels of the array contains different metal-ligand compositions.*

*The soluble metal precursor comprises a solublizing ligand and one or more metal-ligand compositions are formed without displacing the solublizing ligand.*

Weinberg et al. teach the methods for the synthesis and characterization of arrays, i.e. libraries of catalysts and organometallic compounds (see e.g. Abstract; col. 1, lines 16-25; col. 3, lines 30-36). Weinberg et al. disclose a method of making an array of metal-ligand compounds wherein the step comprises reacting a metal binding ligand with a metal ion (refers to the metal precursor) (see e.g. col. 3, lines 37-54; col. 9, line 45 to col. 10, line 15). The array comprises different metal-ligand compounds at known location and the synthesis can be conducted using solution-phase synthetic technique (refers to the limitation of a plurality of discrete reaction vessels contained by integrated structure and contain different metal-ligand compounds, and claim 3) (see e.g. col. 3, lines 55-64; col. 10, line 66 to col.11, line 12; fig. 14). The synthesis

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also includes adding an activator such as  $\text{PhNMe}_2\text{HB}(\text{C}_6\text{F}_5)_4$  (refers to claims 14-15, 47-49) (see e.g. col. 11, lines 28-37). The metal ion is transition metal ions (refers to claim 9)(see e.g. col. 11, lines 13-17; col. 24, lines 46-48). The metal-binding ligand includes ligands such as heterocyclic compounds (refers to claim 2) and ancillary ligands (refers to 16-19) (see e.g. col. 15, line 61 to col. 16, line 11; col. 16, lines 20-34; col. 16, line 35 to col. 21, line 61). Additionally, the libraries are screened for useful property such as polymerization reaction (see e.g. col. 11, lines 38-67; col. 26, line 63 to col. 27, line 10).

Johnson et al. disclose the methods of using soluble transition metal-based catalysts for polymerization of ethylene and  $\alpha$ -olefins (see e.g. pg. 6414, left col., lines 1-7; pg. 6414, Scheme 1). The transition metal is palladium and nickel (refers to claim 9) (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). The solublizing ligand is methyl and Br (refers to claims 10, 22, 40-41) (see e.g. pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1). The metal-binding ligand is diimine ligands (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). Johnson et al. disclose two synthetic schemes for the polymerization of ethylene (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1). In the first synthetic scheme the metal catalyst, i.e. the metal with diimine ligands and methyl groups, is activated with an activator that result in a loss of a methane (refers to displacing the solublizing ligand) and forming a diethyl ether adduct, and exposing the metal adduct to ethylene (refers to a monomer) that result in a polymer, and the polymer is analyzed by NMR, i.e. nuclear magnetic resonance, (see e.g. pg. 6414, left col., lines 15-29; pg. 6414, Scheme 1; pg. 6415, Table 1). In the second synthetic scheme the metal catalyst, i.e. the metal with diimine ligands and bromine groups, is activated with an activator (refers to without displacing the solublizing ligand) and

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exposing the metal catalyst to ethylene (refers to a monomer) that result in a polymer, and the polymer is analyzed by NMR, i.e. nuclear magnetic resonance, (see e.g. pg. 6414, right col., lines 1-4; pg. 6414, Scheme 1; pg. 6415, Table 1).

The method combination of Weinberg et al. and Johnson et al. disclose the method of making and screening an array of metal-ligand compositions. However, neither Weinberg et al. nor Johnson et al. expressly include the addition of a deprotonating agent in the method of synthesizing the metal ligand compound and the deprotonating agent is BuLi.

Murata et al. disclose a process for synthesizing metallocene compounds (see e.g. Abstract; col. 3, lines 7-14). The metal includes Hf(IV) (see e.g. col. 10, lines 23-38). The synthetic method of the metal compound comprise of the addition of the deprotonating agent, which is n-BuLi (see e.g. col. 11, lines 31-40).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the addition of a deprotonating agent in the method of synthesizing the metal ligand compound and the deprotonating agent is BuLi as taught by Murata et al. in the method combination of Weinberg et al. and Johnson et al. One of ordinary skill in the art would have been motivated to include the addition of a deprotonating agent in the method of synthesizing the metal ligand compound and the deprotonating agent is BuLi in the method combination of Weinberg et al. and Johnson et al. for the advantage of providing an efficient synthesis of metallocene compounds (Murata: col. 5, lines 48-56). Furthermore, one of ordinary skill in the art would have reasonably expectation of success in the combination of Weinberg et al., Johnson et al., and Murata et al. because Murata et al. disclose by examples the synthesis of

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metallocene compounds with the addition of the deprotonating agent (see e.g. col. 12, line 35 to col. 21, line 49).

***Allowable Subject Matter***

20. Claims 90-122 are allowed.

21. The following is an examiner's statement of reasons for allowance:

The instant invention of claims 90-122 is allowable for the reason that the cited prior arts do not teach or fairly suggest the presently claimed method for preparing and screening an array of metal-ligand compositions wherein the displaced solublizing ligand reduces the catalytic activity of the metal-ligand composition in the polymerization mixture by less than about 80%.

***Response to Arguments***

22. Applicant's arguments directed to the rejection under 35 USC 103(a) as being unpatentable over Weinberg et al. (US Patent 6,030,917) and Johnson et al. (*J. Am. Chem. Soc.*, 1995, 117(23), pgs. 6414-6415) for claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, and 54-58 were considered but they are not persuasive for the following reasons.

Applicant contends that the presently claimed method is not obvious over the method combination of Weinberg et al. and Johnson et al. because neither Weinberg et al. nor Johnson et al. teach or suggest that the metal ligand compositions are formed without displacing a ligand from the soluble precursor, and there is no motivation to combine the teaching of Weinberg et al.

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and Johnson et al. Thus the method combination of Weinberg et al. and Johnson et al. is not obvious over the presently claimed method.

Applicant's arguments are not convincing since the method combination of Weinberg et al. and Johnson et al. is obvious over the presently claimed method. Because, first Johnson et al. does disclose the method wherein the metal ligand composition is formed without displacing a ligand from the soluble precursor (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). That is the diime ligand (a ligand) is not displaced from the metal precursor. Thus, Johnson et al. does disclose the method wherein the metal ligand composition is formed without displacing a ligand from the soluble precursor.

2) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine the teaching of Weinberg et al. and Johnson et al. is found in the reference of Johnson et al., i.e. for the advantage of providing a metal systems capable of converting  $\alpha$ -olefins to high polymers (Johnson: pg. 6415, right col., lines 12-16). Thus there is a motivation to combine the teaching of Weinberg et al. and Johnson et al.

Therefore, the method combination of Weinberg et al. and Johnson et al. is obvious over the presently claimed method, and the rejection is maintained.

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23. Applicant's arguments directed to the rejection under 35 USC 103(a) as being unpatentable over Weinberg et al. (US Patent 6,030,917) and Johnson et al. (*J. Am. Chem. Soc.*, **1995**, 117(23), pgs. 6414-6415) as applied to claims 1-6, 9-10, 14-19, 21-22, 40-41, 47-49, 52, and 54-58 above, and further in view of Murata et al. (US Patent 5,892,075) for claims 70-71 were considered but they are not persuasive for the following reasons.

Applicant alleges that the presently claimed method is not obvious over the method combination of Weinberg et al., Johnson et al., and Murata et al. because neither Weinberg et al. nor Johnson et al. teach or suggest that the metal ligand compositions are formed without displacing a ligand from the soluble precursor, and there is no motivation to combine the teaching of Weinberg et al., Johnson et al., and Murata et al. Thus the method combination of Weinberg et al., Johnson et al., and Murata et al. is not obvious over the presently claimed method.

Applicant's arguments are not convincing since Applicant's arguments are not convincing since the method combination of Weinberg et al., Johnson et al., and Murata et al. is obvious over the presently claimed method. Because, first Johnson et al. does disclose the method wherein the metal ligand composition is formed without displacing a ligand from the soluble precursor (see e.g. pg. 6414, left col., lines 15-24; pg. 6414, Scheme 1). That is the diime ligand (a ligand) is not displaced from the metal precursor. Thus, Johnson et al. does disclose the method wherein the metal ligand composition is formed without displacing a ligand from the soluble precursor.

2) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or



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modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine the teaching of Weinberg et al., Johnson et al., and Murata et al. is found in the reference of Murata et al., i.e. for the advantage of providing an efficient synthesis of metallocene compounds (Murata: col. 5, lines 48-56). Thus there is a motivation to combine the teaching of Weinberg et al., Johnson et al., and Murata et al.

Therefore, the method combination of Weinberg et al., Johnson et al., and Murata et al. is obvious over the presently claimed method, and the rejection is maintained.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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mct  
March 17, 2005

  
PADMAASHRI PONNALURI  
PATENT EXAMINER

**Continuation of Disposition of Claims:** Claims withdrawn from consideration are 7,8,20,23-39,42-46,50,51,53,59-68,96,97,103-105,108-112,115,120 and 121.